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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,240	04/06/2004	Robert Greenberg	S293-USA	7467

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EXAMINER

REIDEL, JESSICA L

ART UNIT	PAPER NUMBER
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3762

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

6

Office Action Summary	Application No. 10/820,240	Applicant(s) GREENBERG ET AL.	
	Examiner Jessica L. Reidel	Art Unit 3762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." The Transmittal Letter received with the application states that an Information Disclosure Statement and PTO-1449 were filed with the application however this office received neither. Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Specification

2. The disclosure is objected to because of the following informalities: there exists a spelling error on page 10, line 20; the examiner suggest changing "issue" to "tissue". Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claim 18 is rejected under 35 U.S.C. 102(a) as being anticipated by Rizzo et al. (U.S. 2003/0158588) (herein Rizzo). Rizzo discloses a retinal prosthesis 40 comprising an electrode array 56 suitable to be mounted in close proximity to a retina (see Rizzo page 6, paragraph 42), an electronics package 70 (see Rizzo page 6, paragraph 44), and a power source in the form of an

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“external transmitter circuit carried by the patient in a convenient location such as a pocket, along with batteries to power the transmitter” (see Rizzo page 5, paragraph 37).

Rizzo further discloses an electrical cable 68. Cable 68 couples the electrode array 56 to the electronics package 70 and couples a secondary inductive coil 52 to the electronics package 70. Secondary coil 52 is suitable to be mounted to the side of a skull by suture tabs 64 (see Rizzo Fig. 3 and page 3, paragraph 29). The retinal prosthesis disclosed by Rizzo also comprises a primary inductive coil 34 suitable to be placed outside of the body (see Rizzo Fig. 2A) and coupled to the power source (see Rizzo page 5, paragraph 37). Rizzo also discloses that a retinal prosthesis 40 can comprise a video capture device in the form of a “camera located on a pair of glasses or elsewhere outside the body” (see Rizzo page 1, paragraph 9).

5. In addition to the arguments presented for the rejection of Claim 18, Claim 28 is rejected. Rizzo further discloses a retinal prosthesis comprising a secondary inductive coil 32 in the shape of an oval in order to create a large receiving surface area to provide electrical power for operation through electromagnetic or radio frequency induction from a transmitter located outside the body (see Rizzo Fig. 2A).

6. In addition to the arguments presented for the rejection of Claim 18, Claim 31 is rejected. Rizzo further discloses that a retinal prosthesis “can be position on the inner surface of the retina, i.e. epiretinal” (see Rizzo page 1, paragraph 4).

7. In addition to the arguments presented for the rejection of Claim 18, Claim 34 is rejected. Rizzo further discloses “one or more primary coils 34” (see Rizzo page 5, paragraph 39) mounted on the side of a pair of eyeglasses 38, or in an alternate embodiment under the skin near an implanted secondary coil 32 so that electromagnetic fields from the former easily reach the

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latter to enable more efficient transmission from the primary coil(s) 34 to the secondary coil 32 (see Rizzo page 5, paragraph 37).

8. Claim 35 is rejected under 35 U.S.C. 102(a) as being anticipated by Rizzo. Rizzo discloses a retinal prosthesis 40 comprising an electrode array 56 suitable to be mounted in close proximity to a retina (see Rizzo page 6, paragraph 42) and an electronics package 70 (see Rizzo page 6, paragraph 44). Rizzo further discloses an electrical cable 68. Cable 68 couples the electrode array 56 to the electronics package 70 and couples a secondary inductive coil 52 to the electronics package 70. Secondary coil 52 is suitable to be mounted to the side of a skull by suture tabs 64 (see Rizzo Fig. 3 and page 3, paragraph 29).

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Nisch et al. (U.S. 6,847,847) (herein Nisch). Nisch discloses a retinal prosthesis 30 comprising an electrode array 36 suitable to be mounted in close proximity to a retina (see Nisch column 1, lines 34-36 and Figs. 1 and 2) and an electronics package 35 (see Nisch column 6, lines 49-55). The retinal prostheses further comprises an electrical cable 41 coupling the electrode array 36 to the electronics package 35 (see Nisch column 7, lines 1-2) and a secondary “receiver” coil 37, electrically

coupled to the electronics package 35 (see Nisch Fig. 2) and suitable to be mounted to the side of the sclera (see Nisch Fig. 1).

11. In addition to the arguments presented for the rejection of Claim 1, Claim 4 is rejected. Nisch discloses a retinal prosthesis 30 further comprising suture tabs 49 (see Nisch Fig. 2) connected to the secondary inductive coil 37 suitable for attaching the coil to a sclera.

12. In addition to the arguments presented for the rejection of Claim 1, Claim 5 is rejected. Nisch discloses a retinal prosthesis 30 further comprising suture tabs 50 (see Nisch Fig. 2) connected to the electronics package 35 suitable for attaching the electronics package to a sclera.

13. In addition to the arguments presented for the rejection of Claim 1, Claim 13 is rejected. Nisch discloses a retinal prosthesis 30 comprising an electrode array 36 suitable to be placed in an epiretinal location (see Nisch Fig. 6).

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. In addition to the arguments presented for the rejection of Claim 1, Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nisch in view of Shahinpoor et al. (U.S. 2003/0139808) (herein Shahinpoor). Claim 2 differs from Nisch in that the retinal prosthesis does not comprise a strap that surrounds the sclera and is connected to the secondary inductive coil. Shahinpoor, however, discloses a silicone band (similar to a sclera buckle) capable of surrounding a sclera. The band is connected to and supporting an inductive coil 12 (see

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Shahinpoor Fig. 1f) and is capable of attaching to a sensor unit 202 and electronics package 208 (see Shahinpor Fig. 18) in order to improve vision accommodations. Shahinpoor further discloses that these types of scleral bands can be used after eye surgery for “as long as it takes for the retina to reattach to sclera under the buckle pressure by healing” (see Shahinpoor page 8, paragraph 122). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Nisch in view of Shahinpoor to attach the retinal prosthesis to a strap connected to the secondary inductive coil, surrounding the sclera, in order to improve vision accommodations provided by the retinal prosthesis, to provide added support for the inductive coil, and to improve healing of the eye after the prosthesis has been surgically implanted.

16. In addition to the arguments presented for the rejection of Claim 1, Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nisch in view of Shahinpoor. Claim 3 differs from Nisch in that the retinal prosthesis does not comprise a strap that surrounds the sclera and is connected to the electronics package. Shahinpoor, however, discloses a silicone band (similar to a sclera buckle) that surrounds the sclera and is capable of attaching to a sensor unit 202 and electronics package 208 (see Shahinpor Fig. 18) in order to improve vision accommodations. Shahinpoor further discloses that these types of scleral bands can be used after eye surgery for “as long as it takes for the retina to reattach to sclera under the buckle pressure by healing” (see Shahinpoor page 8, paragraph 122). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Nisch in view of Shahinpoor to attach the retinal prosthesis to a strap connected to the electronics package of the retinal prosthesis, surrounding the sclera, in order to improve

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vision accommodations provided by the retinal prosthesis and to improve healing of the eye after the prosthesis has been surgically implanted.

17. In addition to the arguments presented for the rejection of Claims 1 and 2, Claim 6 is rejected. Nisch discloses a retinal prosthesis further comprising a fan tail 33 connected to the secondary inductive coil 37 (see Nisch Figs. 1 and 2) for easing the prosthesis through the sclera upon insertion (see Nisch Fig. 6).

Claim 6 differs from Nisch in that the retinal prosthesis does not comprise a fan tail also connected to the strap surrounding the sclera. Shahinpoor, however, discloses a silicone band (similar to a sclera buckle) capable of surrounding a sclera. The band is connected to and supporting an inductive coil 12 (see Shahinpoor Fig. 1f) and is capable of attaching to a sensor unit 202 and electronics package 208 (see Shahinpoor Fig. 18) in order to improve vision accommodations. Shahinpoor further discloses that these types of scleral bands can be used after eye surgery for “as long as it takes for the retina to reattach to sclera under the buckle pressure by healing” (see Shahinpoor page 8, paragraph 122). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Nisch in view of Shahinpoor to include a fan tail connected to a secondary inductive coil, which in turn is connected to a strap, in order to improve vision accommodations provided by the retinal prosthesis, to provide added support for the inductive coil, to improve healing of the eye after the prosthesis has been surgically implanted, and to facilitate passing the prosthesis through the sclera.

18. In addition to the arguments presented for the rejection of Claims 1 and 2, Claim 7 is rejected. Nisch discloses a retinal prosthesis further comprising a hook 32 suitable for engaging a surgical tool (see Nisch Fig. 1).

19. In addition to the arguments presented for the rejection of Claims 1 and 2, Claim 8 is rejected. The modified Nisch reference discloses the claimed invention except it does not comprise a sleeve for attaching the ends of the strap together. Applicant discloses in the specification that scleral buckling is well known in the art and the band is comprised of silicone placed around the eye and attached at its ends with a sleeve (see Specification pages 7-8). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a sleeve for attaching ends of the strap together upon surgical implantation, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

20. In addition to the arguments presented for the rejection of Claim 1, Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nisch in view of Krulevitch et al. (U.S. 2003/0097166) (herein Krulevitch). Claim 9 differs from Nisch in that the electrode array 36 and cable 41 are not comprised of metal traces sandwiched between thin polymer films. Krulevitch, however, discloses a flexible electrode array 10 for artificial vision comprised of metal traces 12 and 16 sandwiched between biocompatible polymer films 11 (see Krulevitch Fig. 9). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the electrode array of Nisch in view of Krulevitch to comprise metal traces sandwiched between polymer films to increase the flexibility and biocompatibility of the claimed invention. Furthermore, it also would have been obvious to modify the cable of Nisch in view of

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Krulevitch in the manner of the electrode array since they are attached and both implanted against the retina and it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

21. In addition to the arguments presented for the rejection of Claims 1 and 9, Claim 10 is rejected. Nisch discloses a retinal prosthesis further comprising a cable that is folded to present the same side of the cable to both the electronics package and the retina (see Nisch Figs. 2 and 6).

22. In addition to the arguments presented for the rejection of Claim 1, Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nisch in view of Krulevitch et al. (U.S. 2003/0097166) (herein Krulevitch). Nisch discloses a retinal prosthesis 30 comprising an electrical cable 41 coupling an electrode array 36 to an electronics package 35 (see Nisch column 7, lines 1-2). Claims 11 and 12 differ from Nisch in that the electrical cable disclosed is not suitable to pierce the sclera or the pars plana region of the sclera.

Krulevitch, however, discloses a flexible electrode array 10 for artificial vision comprised of points, barbs, hooks, or tacks (see Krulevitch page 7, paragraph 109). Applicant discloses in the specification that it is well known in the art that such points, barbs, hooks, or tacks on a device adjacent to the sclera is suitable to pierce the sclera, or the pars plan region of the sclera, in order to mechanically stabilize the array, minimize the distance between the electrodes and the visual neurons, and to avoid undue compression of the visual neurons. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the cable coupled to the electrode array of Nisch in view of Krulevitch to include points, barbs,

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hooks, or tacks to improve the claimed invention's ability to avoid undue compression of the visual neurons, not only by the electrode array that resides adjacent to the sclera, but by the attached cable that also resides adjacent to the sclera.

23. In addition to the arguments presented for the rejection of Claim 1, Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nisch in view of Michelson (U.S. 4,628,933). Claim 14 differs from Nisch in that the secondary inductive coil is not a wound wire coil. Michelson, however, discloses a visual prosthesis 11 comprising a secondary inductive coil 37 that is a wound wire coil in order to provide electrical power for operation through electromagnetic or radio frequency induction from a transmitter located outside the body (see Michelson column 5, lines 3-26). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the induction coil of Nisch in view of Michelson to be a wound wire coil in order to provide a means of transmitting power from an external transmitter to the implanted claimed invention.

24. In addition to the arguments presented for the rejection of Claims 1 and 2, Claim 15 is rejected. Nisch discloses a retinal prosthesis further comprising a fan tail 33 connected to the electronics package 35 and the cable 41 (see Nisch Figs. 1 and 2) to facilitate passing the cable through the sclera (see Nisch column 8, lines 42-55).

25. In addition to the arguments presented for the rejection of Claim 1, Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nisch in view of Rizzo. Claim 16 differs from Nisch in that the secondary inductive coil is not substantially oval shaped. Rizzo, however, discloses a retinal prosthesis comprising an electrode array 56, an electronics package 70, and a secondary inductive coil 32 in the shape of an oval in order to create a large receiving surface

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area to provide electrical power for operation through electromagnetic or radio frequency induction from a transmitter located outside the body (see Rizzo Fig. 2A). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the induction coil of Nisch in view of Rizzo to be substantially oval shaped in order to create a large receiving surface area to provide electrical power for operation through electromagnetic or radio frequency induction from a transmitter about an eyeglass frame.

26. In addition to the arguments presented for the rejection of Claim 1, Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nisch in view of Rizzo. Claim 17 differs from Nisch in that the prosthesis does not comprise a first passive coil mounted within the body on the side of a skull, and a second passive coil electrically coupled to the first passive coil and mounted within the body proximate to the secondary inductive coil. Rizzo, however, discloses “one or more primary coils 34” (see Rizzo page 5, paragraph 39) mounted on the side of a pair of eyeglasses 38, or in an alternate embodiment under the skin near an implanted secondary coil 32 so that electromagnetic fields from the former easily reach the latter to enable more efficient transmission from the primary coil(s) 34 to the secondary coil 32 (see Rizzo page 5, paragraph 37). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the retinal prosthesis of Nisch in view of Rizzo to include a first passive coil mounted within the body on the side of a skull, and a second passive coil electrically coupled to the first passive coil and mounted within the body proximate to the secondary inductive coil in order to maximize the electromagnetic fields transmitted from the passive coils to the secondary inductive coil to increase the overall energy available to power the prosthesis.

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27. In addition to the arguments presented for the rejection of Claim 18, Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rizzo in view of Shahinpoor. Claim 19 differs from Rizzo in that the retinal prosthesis does not comprise a strap that surrounds the sclera and is connected to the secondary inductive coil. Shahinpoor, however, discloses a silicone band (similar to a sclera buckle) capable of surrounding a sclera. The band is connected to and supporting an inductive coil 12 (see Shahinpoor Fig. 1f) and is capable of attaching to a sensor unit 202 and electronics package 208 (see Shahinpor Fig. 18) in order to improve vision accommodations. Shahinpoor further discloses that these types of scleral bands can be used after eye surgery for “as long as it takes for the retina to reattach to sclera under the buckle pressure by healing” (see Shahinpoor page 8, paragraph 122). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Rizzo in view of Shahinpoor to attach the retinal prosthesis to a strap connected to the secondary inductive coil, surrounding the sclera, in order to improve vision accommodations provided by the retinal prosthesis, to provide added support for the inductive coil, and to improve healing of the eye after the prosthesis has been surgically implanted.

28. In addition to the arguments presented for the rejection of Claim 18, Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rizzo in view of Shahinpoor. Claim 20 differs from Rizzo in that the retinal prosthesis does not comprise a strap that surrounds the sclera and is connected to the electronics package. Shahinpoor, however, discloses a silicone band (similar to a sclera buckle) that surrounds the sclera and is capable of attaching to a sensor unit 202 and electronics package 208 (see Shahinpor Fig. 18) in order to improve vision accommodations. Shahinpoor further discloses that these types of scleral bands can be

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used after eye surgery for “as long as it takes for the retina to reattach to sclera under the buckle pressure by healing” (see Shahinpoor page 8, paragraph 122). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Rizzo in view of Shahinpoor to attach the retinal prosthesis to a strap connected to the electronics package of the retinal prosthesis, surrounding the sclera, in order to improve vision accommodations provided by the retinal prosthesis and to improve healing of the eye after the prosthesis has been surgically implanted.

29. In addition to the arguments presented for the rejection of Claim 18, Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rizzo in view of Nisch. Claim 21 differs from Rizzo in that the prosthesis does not further comprise suture tabs connected to the secondary inductive coil. Nisch, however, discloses a retinal prosthesis 30 comprising suture tabs 49 (see Nisch Fig. 2) connected to the secondary inductive coil 37 suitable for attaching the coil to a sclera in order to achieve a mechanically stable implantation of the prosthesis. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Rizzo in view of Nisch to include suture tabs connected to the secondary inductive coil to establish a mechanically sound and stable connection of the coil to a sclera.

30. In addition to the arguments presented for the rejection of Claim 18, Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rizzo in view of Nisch. Claim 22 differs from Rizzo in that the prosthesis does not further comprise suture tabs connected to the electronics package suitable for attaching the electronics package to a sclera. Nisch, however, discloses a retinal prosthesis 30 further comprising suture tabs 50 (see Nisch Fig. 2) connected to

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the electronics package 35 suitable for attaching the electronics package to a sclera in order to achieve a mechanically stable implantation of the prosthesis. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Rizzo in view of Nisch to include suture tabs connected to the electronics package to establish a mechanically sound and stable connection of the prosthesis to a sclera.

31. In addition to the arguments presented for the rejections of Claim 1 and Claim 19, Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rizzo in view of Shahinpoor and Nisch. The modified Rizzo reference discloses the claimed invention except the prosthesis does not comprise a fan tail to ease surgical insertion of the device. Nisch, however, discloses a retinal prosthesis further comprising a fan tail 33 connected to the inductive coil 37 (see Nisch Figs. 1 and 2) to facilitate passing the coil through muscle tissue (see Nisch column 8, lines 42-55). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Rizzo in view of Shahinpoor and Nisch to include a fan tail connected to the secondary inductive coil and to the strap suitable to facilitate passing the strap and inductive coil through muscle tissue.

32. In addition to the arguments presented for the rejections of Claim 1 and Claim 19, Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rizzo in view of Shahinpoor and Nisch. The modified Rizzo reference discloses the claimed invention except the prosthesis does not comprise a hook on the prosthesis suitable for engaging a surgical tool. Nisch, however, discloses a retinal prosthesis further comprising a hook 32 suitable for engaging a surgical tool (see Nisch Fig. 1) to facilitate surgical insertion of the prosthesis. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was

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made to modify the invention of Rizzo in view of Shahinpoor and Nisch to include a hook for engaging a surgical tool to facilitate insertion of the prosthesis.

33. In addition to the arguments presented for the rejections of Claim 1 and Claim 19, Claim 25 is rejected. The modified Rizzo reference discloses the claimed invention except it does not comprise a sleeve for attaching the ends of the strap together. Applicant discloses in the specification that scleral buckling is well known in the art and the band is comprised of silicone placed around the eye and attached at its ends with a sleeve (see Specification pages 7-8). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a sleeve for attaching ends of the strap together upon surgical implantation, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

34. In addition to the arguments presented for the rejections of Claim 1 and Claim 19, Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rizzo in view of Shahinpoor and Krulevitch. The modified Rizzo reference discloses the claimed invention except the cable and electrode array do not comprise metal traces sandwiched between thin polymer films. Krulevitch, however, discloses a flexible electrode array 10 for artificial vision comprised of metal traces 12 and 16 sandwiched between biocompatible polymer films 11 (see Krulevitch Fig. 9). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the electrode array of Rizzo in view of Shahinpoor and Krulevitch to comprise metal traces sandwiched between polymer films to increase the flexibility and biocompatibility of the claimed invention. Furthermore, it also would have been obvious to modify the cable of Rizzo in view of Shahinpoor Krulevitch in the manner of the electrode array

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since they are attached and both implanted against the retina and it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

35. In addition to the arguments presented for the rejections of Claim 1, Claim 19, and Claim 26, Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rizzo in view of Shahinpoor and Krulevitch. Rizzo further discloses a cable 68 folded to present the same side of the cable to both the electronics package 70 and to the sclera (see Rizzo Fig. 3).

36. In addition to the arguments presented for the rejection of Claim 18, Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rizzo in view of Krulevitch. Rizzo discloses an electrical cable 68. Cable 68 couples the electrode array 56 to the electronics package 70 and couples a secondary inductive coil 52 to the electronics package 70 (see Rizzo Fig. 3). Claims 29 and 30 differ from Rizzo in that the electrical cable disclosed is not suitable to pierce the sclera or the pars plana region of the sclera.

Krulevitch, however, discloses a flexible electrode array 10 for artificial vision comprised of points, barbs, hooks, or tacks (see Krulevitch page 7, paragraph 109). Applicant discloses in the specification that it is well known in the art that such points, barbs, hooks, or tacks on a device adjacent to the sclera is suitable to pierce the sclera, or the pars plana region of the sclera, in order to mechanically stabilize the array, minimize the distance between the electrodes and the visual neurons, and to avoid undue compression of the visual neurons. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the cable coupled to the electrode array of Rizzo in view of Krulevitch to include points, barbs, hooks, or tacks to improve the claimed invention's ability to avoid undue compression of the

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visual neurons, not only by the electrode array that resides adjacent to the sclera, but by the attached cable that also resides adjacent to the sclera.

37. In addition to the arguments presented for the rejection of Claim 18, Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rizzo in view of Michelson. Claim 18 differs from Rizzo in that the secondary inductive coil is not a wound wire coil. Michelson, however, discloses a visual prosthesis 11 comprising a secondary inductive coil 37 that is a wound wire coil in order to provide electrical power for operation through electromagnetic or radio frequency induction from a transmitter located outside the body (see Michelson column 5, lines 3-26). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the induction coil of Rizzo in view of Michelson to be a wound wire coil in order to provide a means of transmitting power from an external transmitter to the implanted claimed invention.

38. In addition to the arguments presented for the rejection of Claim 18, Claim 33 is rejected. Rizzo further discloses a primary coil 34 integrated on the side of a pair of eyeglasses 38. Rizzo discloses the claimed invention except the primary coil 34 is not integrated in the temple of a pair of glasses. It would have been obvious to one having ordinary skill in the art at the time the invention was made to place the primary coil near and parallel to the secondary inductive coil by integrating the primary coil in the temple of a pair of glasses, since it has been held that rearranging parts of an invention involves only routine skill in the art.

Conclusion

39. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Humayun et al. (U.S. 5935155) discloses a visual prosthesis comprising a camera for


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perceiving a visual image and generating a visual signal output, retinal tissue stimulation circuitry adapted to be operatively attached to the a retina, and wireless communication circuitry for transmitting the visual signal output to the retinal tissue stimulation circuitry within the eye.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessica L. Reidel whose telephone number is (571) 272-2129. The examiner can normally be reached on Mon-Thurs 7-4:30 and every other Friday 7-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pezzuto can be reached on (571) 272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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